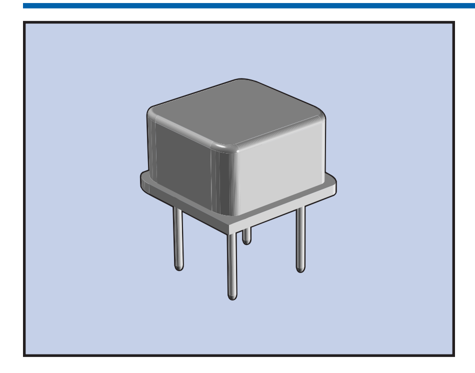
ECS-2200 SERIES 8 PIN DIP CLOCK OSCILLATOR



The ECS-2200 Series clock oscillator can drive both HCMOS and TTL logic. This oscillator also features tri-state enable / disable capabilities in an 8 pin DIP package.

FEATURES

- **50pF HCMOS/TTL logic**
- **Tri-State enable/disable**
- **Wide frequency range**
- **Resistance weld package**
- **3.3V operation (optional)**

PART NUMBERING GUIDE

PART NUMBER*	FREQUENCY STABILITY
ECS-2200A	±100 PPM
ECS-2200B	±50 PPM
ECS-2200C	±25 PPM

** Complete part number to include frequency. i.e. ECS-2200A-100 (100 = 10.000MHz)*

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	FREQUENCY RANGE	CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
FREQUENCY RANGE (f_0)	1.000 ~ 150.000		1.000		150.000	MHz
OPERATING TEMP. RANGE (T_{OPR})	1.000 ~ 150.000		0		+70	˚C
STORAGE TEMP. RANGE (T_{STG})	1.000 ~ 150.000		-55		+125	˚C
FREQUENCY STABILITY	1.000 ~ 150.000	All conditions*	-100		+100	PPM
INPUT CURRENT (I_{DD})	1.000 ~ 25.000			17	25	mA
	25.000 ~ 50.000			33	46	mA
	50.000 ~ 80.000			45	77	mA
	80.000 ~ 150.000			67	82	mA
OUTPUT SYMMETRY	1.000 ~ 80.000	50% V_{DD} level	45	50 ±3	55	%
	80.000 ~ 150.000	50% V_{DD} level	40	50 ±3	60	%
RISE TIME (T_R)	1.000 ~ 150.000	10% ~ 90% V_{DD} level			5	nS
FALL TIME (T_F)	1.000 ~ 150.000	90% ~ 10% V_{DD} level			5	nS
OUTPUT VOLTAGE (V_{OL})	1.000 ~ 150.000	I_{OL} = 16 mA			0.5	V
(V_{OH})	1.000 ~ 150.000	I_{OH} = -16 mA	4.5			V
OUTPUT CURRENT (I_{OL})	1.000 ~ 150.000	V_{OL} = 0.5 V			16	mA
(I_{OH})	1.000 ~ 150.000	V_{OH} = 4.5 V			-16	mA
OUTPUT LOAD	1.000 ~ 150.000	TTL			10	TTL
	1.000 ~ 80.000	HCMOS			50	pF
	80.000 ~ 150.000	HCMOS			30	pF
START-UP TIME (T_S)	1.000 ~ 150.000	0.0V TO 5.0V			10	mS
SUPPLY VOLTAGE (V_{DC})		+5.0 ±0.25				V_{DC}

** Inclusive of 25˚C tolerance, operating temperature range, input voltage change, load change, aging, shock and vibration.*
*** An internal pullup resistor from pin 1 to pin 14 allows active output if pin 1 is left open.*

PACKAGE DIMENSIONS (mm)

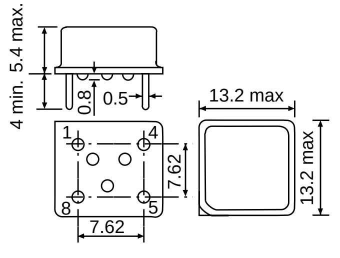


Figure 1) ECS-2200 Series – Side, Bottom and Top views

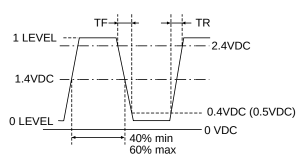


Figure 2) TTL Output Wave Form

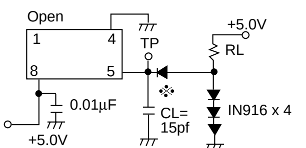


Figure 3) TTL Test Circuit

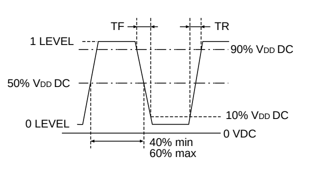


Figure 4) HCMOS Output Wave Form

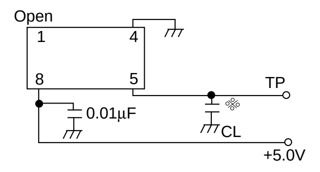


Figure 5) HCMOS Measurement Circuit (C_L = 15pF)

PIN CONNECTIONS		
#1	H or Open	L
#4	Ground	GND/CASE CND
#5	Output	High Impedance
#8	GND	+5VDC

ENABLE / DISABLE FUNCTION**	
$\overline{INH}$ (PIN 1)	OUTPUT (PIN 8)
OPEN***	ACTIVE
1 LEVEL $V_{IH} \geq$ 2.2 V ($V_{IH} \geq$ 2.0 V ABOVE 70MHz)	ACTIVE
'0' LEVEL $V_{IL} \leq$ 0.8 V	HIGH Z

ESC-2200 STAND-BY-FUNCTION		
#1 (Control Term.)	Open or "H"	"L"
#5 (Output Term.)	Oscillation	"H" Level